

Additional chart coverage may be found in CATP2, Catalog of Nautical Charts. SECTOR $\bf 16$ — CHART INFORMATION

SECTOR 16

THE QUEEN CHARLOTTE ISLANDS—WEST COAST

Plan.—This sector describes the W coast of the Queen Charlotte Islands, between Cape St. James and Cape Knox. The descriptive sequence is NW.

General Remarks

16.1 The W coast of the Queen Charlotte Islands is rugged, bold, and indented by numerous inlets, some of which extend inland for a considerable distance. The larger inlets have been surveyed, but many of the others have not been examined or are only partially surveyed.

The coast located close inland is generally mountainous and rises to heights in excess of 510m. Farther inland, the numerous ranges and peaks rise to heights in excess of 910m. Some of these peaks are conspicuous and easily identified from seaward.

The entrances to many of the inlets are not readily distinguished at night, even in good weather with bright moonlight, because of the high land in the background and the heavily breaking seas.

Numerous enclosed anchorages are available in some of the inlets, but during SE gales, violent squalls may be encountered. Although no heavy seas are raised within the inlets, the force of these squalls induces excessive yawing. Care should be taken at such times to guard against dragging. Rennell Sound provides the most accessible shelter for large vessels.

Depths off the W coasts of the islands are quite uniform and deep with no off-lying dangers. Seaward of the 200m curve, which lies between 1 mile and 5 miles off the salient points, the depths increase rapidly.

A depth of 15m was reported to lie over a sharp pinnacle on **Bowie Bank** (53°18'N., 135°40'W.), about 100 miles W of Graham Island

During heavy weather, vessels are recommended to give Bowie Bank a wide berth as wave studies indicate that a shallow water effect can be experienced in this vicinity.

Hodgkins Seamount lies about 20 miles NW of Bowie Bank and Dickens Seamount lies about 65 miles farther NNW. These banks rise sharply from the ocean floor.

Winds—Weather.—The prevailing winds, from about 1 October to the latter part of December, are from the SE and E, and are usually strong gales accompanied by heavy rainfall. The change to offshore winds from the NW or N and NE occurs, in most years, from the latter part of December to February. The prevailing winds during February, March, and April are from the SE and E. Winds from the W generally occur during May; the more usual winds from S, SW, and W occur during June, July, August, and September. No fixed rules can be applied as strong SE or NW breezes may occur at any season. Winds from the NE during the summer are rare.

Williwaws are violent squalls with strong gusty winds that are encountered in the northernmost inlets of British Columbia and in particular off the W coast of the Queen Charlotte Islands. Williwaws, unlike the Squamish, are usually of short duration. They are encountered during the winter and are caused by the drainage of cold air which sweeps down the mountain slopes with great force in these narrow inlets. When sailing close to the coast in stormy weather, williwaws may be encountered near the mouth of these inlets. Vessels at anchor should keep a watch. Williwaws come up suddenly and the successive strong gusts of wind from varying directions may cause vessels to yaw badly with the possibility of dragging.

Tides—Currents.—The current sets NW along the NW coast of Queen Charlotte Islands at a rate of 0.5 knot during normal weather. The current increases to rates of 1 to 1.5 knots with strong SE gales.

Regulations.—The waters described in this sector lie within the Prince Rupert Vessel Traffic Zone. For further information, see General Remarks in paragraph 11.1.

Canadian modifications to 72 COLREGS are applied in waters under Canadian jurisdictions. See Pub. 120, Sailing Directions (Planning Guide) Pacific Ocean and Southeast Asia for further information.

Anchorage.—There are several enclosed anchorages on the W coast of the Queen Charlotte Islands, but they are subject to violent yawing caused by severe squalls during strong SE gales. Vessels should be guarded from dragging.

Caution.—Ocean Data Acquisition System (ODAS) data collecting superbuoys are moored off the coast and may best be seen on the chart.

Kunghit Island

16.2 Cape St. James (51°56'N., 131°01'W.), together with the islands and dangers lying to the SE of it, has been described in paragraph 15.2.

Kunghit Island (52°05'N., 131°00'W.), if the weather is clear, will be the first land sighted when approaching the Queen Charlotte Islands from the S. This island rises to a height of 454m about 2 miles NW of its S extremity. The tallest peak, which is 546m high, stands on the NE part of the island.

The W side of the island between its S extremity and Arnold Point, 10.3 miles NNW, is indented by several small exposed inlets of no commercial importance. Depths along this section of coast are fairly deep within 0.5 mile of the shore. However, **Barbers Point** (52°00'N., 131°06'W.), located about midway between the S extremity of Kunghit Island and Arnold Point, should be passed at a distance of at least 1 mile.

Gordon Islands (52°06'N., 131°09'W.) are a group of several small, wooded islands, fringed by kelp. They are separated from Arnold Point by a narrow and deep channel. The southernmost and largest island is 57m high.

Ibbertson Banks (52°06'N., 131°10'W.), two in number, lie about 1.5 miles WSW of the Gordon Islands. A least depth of 16.5m lies on the northernmost bank.

Flatrock Island (52°07'N., 131°10'W.) is bare and lies almost in the middle of a narrow rocky ridge. This island has a

flat top and its N and S sides are steep-to. A light is shown from a structure, 21m high, standing on the island.

MacLeod Shoal (52°07'N., 131°11'W.) is detached, kelp-covered, and rocky. This shoal has a least depth of 11m and is steep-to on all sides.

Anchorage can be taken by vessels up to 76m in length in a depth of 30m about 0.4 mile WNW of Arnold Point. The swinging room is restricted, but the holding ground is good. Strong N or NW winds in opposition to a strong flood render this anchorage unsafe.

Cape Fanny (52°07'N., 131°11'W.), the S extremity of Moresby Island, rises to a height of 291m about 0.8 mile N. A rock, 4.9m high, lies close S of this cape.

Houston Stewart Channel

16.3 Houston Stewart Channel (52°07'N., 131°08'W.), entered from the S between the Gordon Islands and Cape Fanny, is bordered by bold, densely wooded shores on both sides. A bare summit, 657m high, rises 5 miles N of Cape Fanny. This summit is conspicuous from the SW and serves as a convenient landmark for identifying the approach. Two other bare summits, 678m and 692m high, stand 1 mile and 1.3 miles, respectively, farther NNW.

The channel lying between the Gordon Islands and **Hornby Point** (52°09'N., 131°07'W.) has a navigable width of 0.5 mile and is deep to seaward of the fringing dangers which lie close offshore

Washington Rock (52°07'N., 131°08'W.), the only known off-lying danger, is 0.9m high and bare. It lies on the E side of the channel. Another rock, with a depth of less than 1.8m, lies close NW of this rock.

The channel turns E close N of Hornby Point and leads 2.5 miles to its junction with Hecate Strait. Several dangers lie near the middle of this section of the channel. During the summer and autumn, most of these dangers are marked by kelp, which may be drawn under when the currents are strong.

Ross Island (52°10'N., 131°07'W.), 64m high at its S end, lies on the N side of this channel, directly opposite of Hornby Point. A detached shoal, with a depth of 6.7m, lies close S of the island.

The N side of Houston Stewart Channel, between Ross Island and Point Langford, is indented by two small bays of no importance. Both bays are fronted by foul ground and several detached shoal patches extend well into their fairways.

Quadra Rocks (52°09'N., 131°06'W.), two in number, lie close apart in mid-channel, about 0.5 mile NE of Hornby Point. The northernmost rock is awash; the southernmost rock has a least depth of 1.8m. Numerous detached rocky patches lie in close proximity to these dangers. Quadra Rocks are marked by tide rips and overfalls during the strength of the currents, and by kelp on the SW side.

Trevan Rock (52°09'N., 131°05'W.), which dries 3m, is surrounded by shoals and marked by a beacon. A ridge of detached rocky patches, with depths of 9m and less, lie within 0.3 mile NE of the rock.

Ellen Island (52°09'N., 131°06'W.), 50m high on its W side, lies close S of Trevan Rock and is separated from it by Gaudin Passage. This passage, although narrow, is deep and clear.

16.4 Rose Harbor (52°09'N., 131°05'W.) is entered between Ellen Island and Annette and Fairfax Islands, 0.5 mile E. It provides sheltered anchorage to vessels of moderate size. The ruins of a former whaling station are situated at the head of the harbor.

Anchorage can be taken in a depth of 25m about 0.2 mile E of Ellen Island, but care should be taken to avoid the foul ground found lying along the E and S sides of the harbor.

Charles Islands (52°09'N., 131°04'W.), two in number, are small and lie close together in an area of foul ground, about 0.3 mile E of Annette Island.

Moore Head and Point Langford, which mark the S and N sides of the E entrance to Houston Stewart Channel, are described in paragraph 15.4.

Caution.—Houston Stewart Channel, lying E of Hornby Point, should only be attempted during daylight hours and at slack water. It should only be used by vessels less than 60m in length with drafts up to 6.1m. The best time to pass through Gaudin Passage is at LW slack. Trevan Rock will then be visible and provide a good mark for clearing Quadra Rocks. Local knowledge is required at other times.

The E current sets through Houston Stewart Channel at a velocity of 3 to 5 knots, and from 2 to 4 knots in the opposite direction. At times, a velocity of 5 knots is experienced at the E end of the channel.

Heavy overfalls occur over the shoals lying S of Point Langford when strong SE winds are in opposition to the flood.

Rose Inlet

16.5 Rose Inlet (52°10'N., 131°08'W.) is entered from the N side of Houston Stewart Channel between Catherine Point and Ross Island, 1 mile NE. This inlet is navigable up to 2 miles N of the entrance points, but above this position to its head, the inlet is encumbered by numerous rocks, islets, and areas of foul ground. The W shore rises boldly and is fairly steep-to; whereas, the E shore is bordered by kelp and fronted by shoals extending up to 0.3 mile seaward in places.

Denny Rocks (52°10'N., 131°07'W.), which consists of several drying rocks, lie in the middle of an area of shoal ground which extends about 0.4 mile NW from Ross Island.

Pincher Rocks (52°11′N., 131°08′W.), a group of barely visible rocks, lie on the S part of the shoal ground which fouls the head of the inlet.

Anchorage can be taken in depths of 14 to 18m in the middle of Ross Inlet, about 1 mile N of Ross Island.

Louscoone Inlet (52°07'N., 131°13'W.) is entered between Fanny Point and Louscoone Point, 2 miles WNW. It indents Moresby Island for a distance of 8 miles. Depths throughout the inlet are considerable, but gradually shoal near its head.

Anthony Island $(52^{\circ}05'N., 131^{\circ}13'W.)$, lying on the W side of the approach to the inlet, is 108m high, wooded, and bordered by some white cliffs on its W side. A few totem poles stand on its E side.

A group of islets and above-water rocks lie on the shoal ground which extends up to about 0.8 mile S and 1 mile W of the S end of the island. Several detached shoals lie within 0.5 mile S of the latter group. A similar group extends about 0.8 mile NW from the NW side of the island.

Adam Rocks (52°07'N., 131°14'W.), consisting of a group of above and below-rocks, lie about midway between the islets located off the NW side of Anthony Island and Louscoone Point. The largest rock is covered by scrub and the rest are bare.

Caution.—Strong currents set through the channels lying N and S of Adam Rocks. Vessels entering or leaving Houston Stewart Channel or Louscoone Inlet are advised not to use the channels which pass N and S of Adam Rocks under any circumstances.

16.6 Tuga Point (52°09'N., 131°14'W.), located on the W shore, is steep-to and lies about 1.7 miles N of Louscoone Point. The intervening bight lying between the two points is fronted by foul ground extending up to 0.2 mile offshore. The remainder of the W coast to the N of Tuga Point is fairly steep-to and clear of dangers, except near the head of the inlet.

Ninstints Point (52°08'N., 131°12'W.), located on the E side of the inlet opposite Louscoone Point, is bordered by several above and below-water rocks close offshore. The two small bights, which lie on either side of the point, are foul. Crooked Point is located on the N side of the northernmost bight.

Etches Point (52°10′N., 131°13′W.), located N of Crooked Point, is low with two drying rocks lying close off its W side. The fairway lying between these rocks and Tuga Point is 0.4 mile wide and fairly deep.

The coast to the N of Etches Point is fronted by several islets and foul ground which extend up to 0.4 mile offshore in places. Cadman Point, a slight projection, is located along this section of coast, about midway between Etches Point and Skindaskun Island, 2 miles NNW.

Skindaskun Island (52°12'N., 131°14'W.), low and wooded, has its NE end joined to the shore by a drying sandbank. A compact group of drying rocks lie within 0.3 mile N of this island.

Head Rock (52°12'N., 131°16'W.), a steep-to drying rock, lies in the center of the fairway, about 1 mile NW of Skindaskun Island. The inlet lying NW of the rock gradually narrows to its head. Several detached shoals, with depths of 11m and less, lie in the middle of the inlet, about 0.5 to 1 mile above Head Rock.

Anchorage can be taken in a depth of 31m about 0.5 mile NNW of Skindaskun Island. Anchorage can also be taken in a depth of 29m about 0.3 mile SSE of Head Rock or in a depth of 23m about 0.5 mile NW of the rock.

Flamingo Inlet

16.7 Flamingo Inlet (52°11′N., 131°21′W.), which lies on the W side of the high peninsula separating it from Louscoone Inlet, is entered about 6.5 miles NW of Anthony Island.

Cape Freeman (52°09'N., 131°19'W.), an irregular-shaped projection which extends about 0.8 mile from the general line of the coast, is located 4 miles NW of Anthony Island. Numerous islets and rocks lie off the S side of this cape.

Billington Rocks (52°10′N., 131°20′W.) consist of an abovewater rock, 0.3m high, another rock, which dries 0.6m, and several others, both awash and below-water. They form a group which lies about 1.3 miles NW of Cape Freeman. **Henderson Islets** (52°10'N., 131°20'W.), two in number, are small and bare. They lie about 0.5 mile NW of Billington Rocks. Several above and below-water rocks lie close S and E of the easternmost islet.

Snub Point (52°11'N., 131°19'W.), the E entrance point of Flamingo Inlet, is fronted by several bare islets and drying rocks. Several drying rocks lie between the point and Henderson Islets.

Naggers Point (52°11′N., 131°22′W.), the W entrance point of the inlet, is fronted by a group of kelp-covered drying rocks, about 0.3 mile E. A light is shown from the point.

Naggers Rocks (52°11'N., 131°21'W.), the outermost dangers lying on the W side of the approach to the inlet, consist of a group of above-water and drying rocks. The largest rock is 15m high.

To the N of Naggers Point, the W side of the inlet is bold and comparatively steep-to as far N as Stake Point, about 3.3 miles above the entrance. The E shore is greatly indented and fronted by several above and below-water dangers. Anvil Cove and Short Inlet, two small indentations of no importance, lie along the E shore within 1.3 miles NW of Snub Point.

Anvil Rock (52°12'N., 131°21'W.), 3m high and bare, lies about 1 mile NW of Snub Point.

Sargison Reef (52°12'N., 131°21'W.), consisting of two above and two below-water rocks, lies about 0.5 mile NNW of Anvil Rock.

16.8 Sperm Bay (52°13'N., 131°21'W.), entered about 0.8 mile N of Sargison Reef, has not been surveyed, but it has been reported that anchorage can be taken by small craft in its NW part.

Stake Point (52°14'N., 131°21'W.), the E entrance point of Stake Bay, lies at the W end of the narrowest part of the inlet, about 1.3 miles above the entrance to Sperm Bay. A detached shoal, with a depth of 10.1m, lies in the middle of the fairway, about 0.3 mile SW of the point.

Stake Bay (52°15'N., 131°22'W.), a long and narrow body of water, is encumbered by numerous dangers. It extends about 2.3 miles N of Stake Point.

Anchorage can be taken by small vessels with local knowledge, in a depth of 14m, about 0.5 mile N of Stake Point. Anchorage can also be taken in a depth of 7m close S of the drying flat at the head of the bay.

McLean Fraser Point (52°13'N., 131°25'W.), located about 2.5 miles NW of Naggers Point, is a slight projection marked by tide rips. The coast between the two points is indented by two small exposed bays, fronted by drying rocks.

The coast between McLean Fraser Point and the entrance to Gowgaia Bay, 13 miles NW, is bold and steep-to. The three small bays which indent this section of the coast have not been surveyed. Wells Cove, the northernmost bay, is encumbered by several rocks, islets, and a reef.

Gowgaia Bay

16.9 Gowgaia Bay (52°24'N., 131°36'W.) is entered between Gowdas Islands, on the S side, and Nangwai Islands, on the N. It indents the coast for about 2 miles and then divides into two bays. A light is shown from Gowgaia Point.

Anchorage is provided in both bays, but the SE bay is preferred.

The **Gowdas Islands** (52°24′N., 131°36′W.), two in number, are wooded and, together with some above-water and drying rocks, lie close offshore on the S side of the entrance of Gowgaia Bay. A bay, with depths of 18 to 36m, lies between these islands and Gowgaia Point, 0.5 mile NE, but it is too exposed to provide sheltered anchorage.

Gowdas Rocks (52°24'N., 131°37'W.), the largest of which is 5m high, lie about 0.5 mile W of the northernmost of the Gowdas Islands. Two drying rocks lie about 0.3 mile SE of the these rocks.

The **Nangwai Islands** (52°24'N., 131°37'W.), two in number, are wooded and lie off the N side of the entrance of Gowgaia Bay. A reef, which terminates in drying rocks, extends about 0.2 mile SSW from the southernmost island and is usually marked by breakers at or near HW.

Nangwai Rock (52°24'N., 131°36'W.), which dries 2.4m, lies about 0.5 mile E of the southernmost of the Nangwai Islands. Several islands, islets, and numerous rocks and shoals lie between this rock and the shore to the N and NE.

Goski Bay (52°25'N., 131°34'W.) lies on the N side of Gowgaia Bay, about 2 miles within the entrance. It has general depths of 20 to 31m in the central part and drying flats at the head. The E half of the bay to the N of Goski Islet has several detached patches, with depths of 10.1m and less.

Goski Islet (52°25'N., 131°33'W.), sparsely wooded and light gray in color, is steep-to on its S and W sides. It lies about 0.3 mile off the E entrance point of Goski Bay. The passage leading between this islet and the shore is shoal.

Although the depths are ample, Goski Bay is not recommended as an anchorage, except during N and NW winds.

Soulsby Cove (52°24'N., 131°33'W.), entered between Commander and Yakulanas Points, lies about 1 mile S of Goski Bay. This cove has general depths of 18 to 34m in its central part, shoaling gradually toward its head.

Anchorage can be taken in a depth of 27m about midway between the entrance points and 0.3 mile offshore.

Yakulanas Bay (52°24'N., 131°31'W.), entered between Yakulanas Point and the shore to the N, extends 1.5 miles SE to its head. Depths range from 36 to 58m in its central part, decreasing rapidly toward the shores. A shoal, with a least depth of 7.9m, extends about 0.3 mile offshore, 1 mile E of Yakulanas Point.

Anchorage can be taken in a depth of 42m about 0.8 mile E of Yakulanas Point or in a depth of 34m about 0.5 mile farther SE.

Gowgaia Bay to Tasu Sound

16.10 The coast between Gowgaia Bay and Tasu Sound, 28 miles NW, is bold, rugged, and indented by numerous small inlets. Depths close offshore are deep with no known off-lying dangers.

Several conspicuous landmarks are found along this section of coast. A conspicuous cone-shaped islet, 149m high, lies close offshore, about 7 miles NW of Nangwai Islands. The high, bare, and rugged peaks of the San Cristoval Range rise to heights in excess of 910m, about 14.5 miles NW of the same

islands. A summit, with a conspicuous white scar, rises close N of Pocket Inlet.

Mount de la Touche (52°42'N., 132°02'W.), with a conspicuous sharp and bare summit, is 1,123m high and stands close inland, about 4 miles SE of the entrance of Tasu Sound.

Mike Inlet (52°32'N., 131°47'W.), lying 9.5 miles NW of the entrance of Gowgaia Bay, extends about 1.8 miles E. This inlet has not been surveyed and should be entered with caution. The inlet can be entered by passing on either side of an islet, with some rocks located close ENE of it, lying close within the entrance. The northernmost channel is preferred. The inlet contracts to a width of only 135m for a short distance, about 1 mile within the entrance and then opens out into a basin. The surrounding land is high and with a strong breeze heavy squalls occur.

A conspicuous, bare summit, 862m high, rises about 1 mile E of the head of the inlet.

Anchorage can be taken at the head of the inlet by small craft with local knowledge in depths of 29 to 45m.

Caution.—The coast between the entrance of Gowgaia Bay and Mike Inlet, 10 miles NW, has not been surveyed inshore and should not be approached within 2 miles.

16.11 Barry Inlet (52°34'N., 131°50'W.), unsurveyed and of little importance, lies about 2.5 miles NW of Mike Inlet. The intervening coast is steep-to close offshore and indented by a small open bay about midway between the two inlets.

The entrance to Barry Inlet, which is about 0.2 mile wide, lies between a low, rocky point on the SE side and a sloping point on the opposite side. A bare, high granite bluff stands inside the entrance on the S side. A depth of 23m lies just within the entrance and a depth of 40m lies close to the above bluff. The land surrounding the inlet is generally high and rises steeply from its head to bare, high mountains.

Anchorage can be taken on the NW side of the inlet, opposite the granite bluff, by small craft with local knowledge.

Murray Cove (52°35'N., 131°54'W.), lying 2.5 miles NW of Barry Inlet, indents the coast and extends about 0.8 mile E. A high, conspicuous pinnacle rock lies close SE of the SE entrance point. The cove provides no shelter.

Pocket Inlet (52°37'N., 132°54'W.), the next inlet NW of Murray Cove, has no known dangers and is surrounded by high, bare land. A low, bare ridge forms the SE side of the entrance, whereas the NW entrance point is high and extends well S. The high, bare peaks of the San Cristoval range rise close E of the head of the inlet and a conspicuous white scar is located close N of the entrance.

Sunday Inlet (52°39'N., 131°57'W.) indents the coast and extends about 2 miles E. It is entered about 2.5 miles NW of Pocket Inlet. The intervening coast is high, rugged, and cliffy with large detached pinnacle rocks lying close offshore. Kwoon Cove, which lies along this section of coast, is exposed and of little importance.

Two rocks, about 0.3 mile apart, lie in the middle of the approach to Sunday Inlet, about 0.5 mile SW of the entrance points.

An unnamed inlet indents the coast about 0.8 mile NE of the above rocks, but is unsurveyed and of no importance.

Sunday Inlet contracts to a width of only about 60m, about 0.8 mile within the entrance between a low flat rock, on the S

side, and an islet, on the N side. A small cove lies at the head of the inlet on the S side.

Anchorage can be taken in the entrance of the inlet in a depth of 27m by small craft with local knowledge.

The coast between Sunday Inlet and Tasu Sound, 7.5 miles NW, continues bold and steep-to. The small indentations found along this section of coast are exposed and provide no shelter. Mount de la Touche, which rises about 4 miles NW of the entrance of Sunday Inlet, has been previously described in paragraph 16.10.

Tasu Sound

16.12 Tasu Sound (52°44'N., 132°07'W.), entered between Tasu Head and Davidson Point, extends 4 miles NE into its central part and then branches out into four inlets. The entrance is narrow and difficult to detect from seaward, even in clear weather, Mount de la Touche is an excellent landmark by which it may be identified.

The SE shore of the entrance is cliffy, steep-to, and backed by land which rises to heights of over 790m. A small, rocky islet lies close W of Tasu Head, the S entrance point. The NW shore is heavily wooded and backed by hills and cliffs.

A light is shown from Davidson Point, the N entrance point of the inlet.

Tasu Narrows, which lead from the entrance points into the inlet, are about 0.3 mile wide and have considerable depths. A heavy swell, when accompanied by W winds, is usually present in the entrance, but moderates before reaching the N end of the narrows. The currents in the narrows are relatively weak, rarely exceeding a rate of 1.8 knots on the flood and 1.5 knots on the ebb. The maximum flood and ebb are reached about 2 hours 30 minutes before HW and LW, respectively. A rate of less than 0.5 knot has been observed from about the time of local HW and LW to about 1 hour 30 minutes after. Strong winds affect the rates and times of slack water. Seaward of the entrance, current tends to set in and out of the narrows, rather than parallel to the coast.

Longon Bay (52°47'N., 132°05'W.) lies on the N side of Tasu Sound, about 2 miles above the narrows. It is obstructed by the Longon Islets and some drying rocks in its S part and several rocks in its N part. Anchorage is not advisable in this bay.

16.13 Newcombe Inlet (52°48'N., 132°03'W.), entered about 1 mile NE of Lomgon Bay, extends about 4 miles N from Shearer Point, its W entrance point. Although obstructed by some rocks and shoals at the entrance and off McAlmond Point, 1.3 miles N, the depths in the inlet are generally fairly deep in the fairway.

A light is shown from McAlmond Point, on the W shore near the narrows of Newcombe Inlet.

Shearer Rock (52°47'N., 132°04'W.), with a depth of 5.5m and marked by kelp, lies about 0.3 mile SW of Shearer Point.

Ariel Rock (52°48'N., 132°03'W.), 2m high and with a drying rock located close S of it, lies in the middle of the fairway, about 0.8 mile NE of Shearer Point. Winnifred Rocks, a compact group of drying and below-water rocks, lie about 1 mile ENE of the same point. A light is shown from these rocks.

The narrows leading into the upper reaches of the inlet are constricted to a width of 0.2 mile by the foul ground which extends from McAlmond Point. The depths are deep off Blunt Point, on the E side of the narrows.

Anchorage can be taken in depths of 20 to 32m about 0.3 mile S of the peninsula extending from the head of the inlet or in a depth of 42m off the E shore.

The N shore of Tasu Sound, up to 2.5 miles E of Newcombe Inlet, is indented by Two Mountain and Barrier Bays.

Two Mountain Bay (52°48'N., 132°00'W.), small in extent but deep, is protected on its S side by a narrow peninsula. Flyaway Islet lies close off its outer extremity. The narrow entrance channel leading into the bay passes E of this islet, but is obstructed in mid-channel by a detached rocky patch, with a depth of 2.7m. A reef, with a drying rock at its outer end, extends about 0.2 mile E from the E part of the islet.

Vessels with local knowledge can anchor W of a small islet lying off the N shore of the bay in a depth of 23m.

Barrier Bay (52°47'N., 131°59'W.), the next bay to the E, is greatly indented with considerable depths in its central part. A drying flat borders its NE side.

Horn Island (52°46'N., 132°04'W.), 48m high and wooded, lies off the S shore of Tasu Sound, about 1.8 miles NW of Tasu Narrows. A light is shown from the N end of this island.

Two privately-maintained floats are situated at the head of the small bay which lies between Horn Island and Magneson Point, close ESE. Two detached rocky patches, with depths of 6.4m and 3.7m, lie in the approach to the bay about 0.1 mile and 0.2 mile, respectively, ESE of the NE end of Horn Island.

Horn Rock (52°46'N., 132°02'W.), 2m high and bare, has drying rocks located close off its SE and SW sides. It lies about 0.5 mile N of Magneson Point.

Gowing Island (52°46'N., 132°02'W.) lies close E of Magneson Point and forms the W side of the entrance leading into Fairfax Inlet. The island is connected to the shore by a rock-filled causeway. It has been reported that all mining operations were terminated and associated marine facilities were dismantled.

16.14 Fairfax Inlet (52°46'N., 132°02'W.), entered close E of Gowing Island, extends about 3.5 miles SE to the head. It has considerable depths throughout, but has no value as an anchorage, because of the steep-to shores. Hunger Harbor, lying close S of Gowing Island, has depths too great to be used as a satisfactory anchorage.

Reid Point (52°47'N., 132°01'W.), the NW extremity of the narrow peninsula separating Fairfax Inlet from Botany Inlet and Wilson Bay, lies about 1.5 miles NE of Magneson Point.

Botany Island (52°46'N., 131°58'W.), 214m high and wooded, lies across the entrance of Botany Inlet, about 1.8 miles SE of Reid Point.

Botany Inlet (52°45′N., 131°58′W.), entered through the two passages which lie on either side of Botany Island, extends about 3 miles SE to its head. The channels lying at the S end of the island are narrow, encumbered by rocks, and can only be used by small craft. The inlet located S of the island, although narrow, had considerable depths.

Wilson Bay (52°47'N., 131°58'W.), lying E of Botany Island, has considerable depths, gradually shoaling near its head.

Amethyst Rock (52°46′N., 131°58′W.), with a least depth of 2.7m, lies about 0.8 mile ENE of Wester Point, the N extremity of Botany Island. Other shoal patches lie within an area bounded by Amethyst Rock, Wester Point, and Wilson Islet, close off the E side of Botany Island. Several other drying rocks and shoals lie S of a line drawn SE from Wilson Islet to the head of the inlet.

Anchorage can be taken at the head of Wilson Bay in a depth of 34m about 0.3 mile offshore. This anchorage is secure, but care should be taken to avoid a detached shoal, with a depth of 6.4m, lying about 0.5 mile ESE of Wilson Islet.

16.15 Portland Bay (52°47'N., 132°11'W.), entered about 4 miles NW of Davidson Point, is exposed and of little importance. A lake, with a waterfall, is located at the head of the bay.

Chads Point is located 1.5 miles NW of Portland Bay and Kootenay Point is located 2.5 miles farther NNW. The mountain ranges inland in this area rise to bare summits, up to 914m high, and stand about 1.5 miles from the shore.

Kootenay Inlet (52°52'N., 132°15'W.), entered 1.3 miles NNE of Kootenay Point, has not been surveyed. No attempt should be made to enter this inlet when a heavy sea is running. The entrance fairway passes E of the two detached islets which lie in the middle of the entrance. Reefs, awash, lie in the middle of the channel farther in. A narrow channel leads into an inner basin in which there are depths of 14 to 18m over the greater part. The entrance of an arm leading NE, about 1 mile within the entrance of the inlet, is obstructed by some islets.

Bottle Inlet (52°54'N., 132°19'W.), entered about 3.8 miles NW of Kootenay Inlet, has not been surveyed but appears to be clear of dangers. The inlet indents the coast and extends 2.5 miles ENE. It has a very narrow entrance with a depth of only 46m. There is a depth of 73m lying close outside the mouth.

Cape Henry (52°56'N., 132°22'W.), located on the S side of the approach to Englefield Bay, lies about 2 miles NW of Bottle Inlet. Antiquary Bay, small and exposed, lies about midway between the two.

Englefield Bay

16.16 Englefield Bay (52°58'N., 132°24'W.) is entered between Cape Henry and Annesley Point, 7.5 miles NW. It extends E and is indented by several inlets along the S shore and by Security Inlet along the N shore.

Several islands and rocks lie within the limits of the bay. Hibben Island, the largest of the group, occupies almost all of the central part of the bay and rises to a height of 783m near its E end.

Denham Shoals (52°57'N., 132°24'W.), an area of irregular depths, extends about 2.5 miles W from the coast between Cape Henry and Denham Point, 1 mile N. Two detached shoals, with depths of 3.7m and 9.1m, form the outermost dangers and lie about 2.5 miles W of Denham Point. Several shoal heads, which lie between the above dangers and the coast, have not been examined.

Cape Kuper (52°58'N., 132°20'W.), the SW extremity of Hibben Island and the N entrance point of Moore Channel, is located 1.5 miles NNE of Denham Point. Several islets, rocks, and dangers lie within about 0.5 mile of this cape.

Bone Point, the W extremity of Hibben Island, has Augustus Rock lying about 0.8 mile S of it and Lihou Island about 0.5 mile W of it. There are considerable depths between this point and the latter island.

Carswel Islandl, Helgesen Island, Saunders Island, and Willie Island lie off the N shore of Englefield Bay to the N, and NW of Lihou Island. Several detached rocky patches lie within 0.5 mile S and SW of Willie Island.

Kaisun Harbor and Boomchain Bay, which lie N of the above group of islands, have not been surveyed and should be used with great caution.

Moore Channel and Adjacent Inlets

16.17 Moore Channel (52°58'N., 132°19'W.), entered between Denham Point and Cape Kuper, extends about 7 miles E and is deep in the fairway. The channel has not been completely surveyed.

Douglas Inlet (52°58'N., 132°14'W.), entered between Herbert Head and Bell Point, extends about 3 miles SE.

Mitchell Inlet (52°58'N., 132°12'W.), separated from Douglas Inlet by Josling Peninsula, is entered between Work Point and MacNeill Point. The inlet extends about 3 miles SE and has several off-lying dangers. Thorn Rock lies on the W side of the inlet, about 1.5 miles SE of Work Point, and has a depth of less than 1.8m. Three rocks, with similar depths, lie close off the N side of the inlet, W and SE of MacNeill Point.

Sansum Island lies in the middle of the inlet, about 2.5 miles within the entrance. That part of the inlet lying SE of the island is known as Thetis Anchorage. A dangerous rock, with depths of less than 1.8m, was reported (1987) to lie in the middle of this anchorage.

Anchorage can be taken, in a depth of 23m, about 0.5 mile SE of Sansum Island. This anchorage is completely landlocked, but at times is subject to rainy squalls of considerable force.

Mudge Inlet (52°58'N., 132°10'W.), entered between Recovery Point and Colton Point, recedes about 2 miles SE and is deep. A chain of above and below-water rocks lies close offshore, within about 0.5 mile W of Recovery Point.

Colton Islet, small and wooded, lies close within the entrance of the inlet. The passage lying W of the islet has considerable depths. The inlet located S of the islet has not been thoroughly examined, but a mid-channel chain of soundings give no indication of any dangers.

Anchorage can be taken by small vessels with local knowledge, in a depth of 33m, at the head of the inlet.

Caution.—Vessels using Mitchell and Mudge Inlets should experience no difficulty, but it should be borne in mind that they have not been thoroughly examined. The winds in the inlets usually blow directly through them, and during periods of bad weather, violent squalls may be expected.

Inskip Channel and Adjacent Inlets

16.18 Inskip Channel (53°01'N., 132°21'W.), entered between Bane Point and Fairlie Point, extends about 6.5 miles ESE and then E and SE into Peel Inlet. The channel is deep and

clear, except for a detached shoal, with a depth of 10.4m, lying about 0.5 mile SSE of Fairlie Point.

Leopold Islands, consisting of a group of wooded islets and some rocks, lie on the N side of the channel, about 0.5 mile NE of Sangster Point, the E extremity of Hibben Island. A rock, with a depth of less than 1.8m, lies at the W end of this group, about 0.5 mile NNE of Sangster Point.

Peel Inlet (52°59'N., 132°09'W.), entered between Peel Point and the shore to the N, is deep and clear up to 0.8 mile within the entrance. Elsewhere, the fairway is encumbered by several islets and above and below-water rocks.

Security Inlet (53°02'N., 132°22'W.), entered between Percy Point and the shore to the W, extends 3.8 miles ENE. The fairway, although narrow, is fairly deep, with no off-lying dangers. All of the known dangers lie close offshore along the S side of the inlet. The N side is deep as far NE as Security Point, at the entrance of Security Cove. Depths in this cove range from 18m at the entrance to 7m and less at the head.

Buck Point (53°06'N., 132°34'W.), high and bold, is the S entrance point of Buck Channel and is located 2.5 miles NW of Kitgoro Inlet. Drying rocks and a detached below-water reef lie within 0.2 mile W and NNW of the point. A rock, which breaks in a heavy sea, lies about 0.5 mile N of the reef and almost in the center of the entrance of Buck Channel.

Anchorage can be taken by small vessels in a depth of 11m about 0.5 mile ENE of Security Point.

Kitgoro Inlet (53°04'N., 132°32'W.) is entered about midway between Annesley Point and Buck Point, 5 miles NW. It is small with a narrow shoal channel leading into it. Anchorage is provided only for small craft with local knowledge during good weather.

16.19 Buck Channel (53°06'N., 132°34'W.), entered between Buck Point and Chaatl Island, extends 5 miles E to Chaatl Narrows and Armentieres Channel, and then N into Skidegate Channel. Part of the narrows dries, but small craft can pass through at half tide.

Buck Channel has not been surveyed and should be used only by vessels with local knowledge.

Chaatl Island (53°07'N., 132°32'W.), long and narrow, separates Buck Channel from Skidegate Channel, to the N. The summit of this island is 718m high and rises in its SW part. The W side of the island, N of Buck Point, is fringed by foul ground which extends up to 0.2 mile offshore. A number of kelp patches also extend a considerable distance offshore. The N side of the island is steep-to within a short distance of the shore. A light is shown from the N side of Tcenakun Point, the NW extremity of the island.

A bank, with irregular depths, extends about 2 miles WNW from Tcenakun Point. A shoal patch, with a depth of 14.6m, forms the outermost danger on this bank and lies about 1.5 miles WNW of the point. Two detached shoal patches, with depths of 8.2m and less, lie about 0.8 mile W of the point.

Skidegate Channel (53°10'N., 132°35'W.) is entered between Tcenakun Point and Ells Point, 1.8 miles NNE. It extends about 8 miles E to Downie Island, then through West Narrows, S of Trounce Inlet, and then through East Narrows to its E entrance.

For a description to the E of the E entrance of Skidegate Channel, including the Sandilands Island, see paragraph 15.39.

Depths in Skidegate Channel, as far E as Downie Island, are deep in the fairway. All of the known dangers which do exist lie close offshore.

A shoal, with a depth of 3.7m, and another shoal, with a depth of 8.2m, lie about 0.5 mile WSW of Ells Point. Between these two shoal patches and Tcenakun Point, the W entrance of Skidegate Channel is constricted to a width of 1.3 miles.

Dawson Islet (53°09'N., 132°30'W.), entered between Mercer and Newton Point, extends about 4.5 miles N. Dawson Harbor lies in the E arm of the inlet, about 1 mile N of the entrance. Dawson Inlet to the N of this E arm has not been surveyed.

Depths within Dawson Harbor are too great for anchoring.

Armentieres Channel (53°07'N., 132°23'W.), which lies at the E end of Chaatl Island, connects Skidegate Channel with Buck Channel to the S. The channel is entered between Georgianna Point and Demariscove Point, 0.5 mile E. A reef, marked with kelp and with a depth of 3.7m, extends up to about 0.1 mile NW from Demariscove Point. Depths in the channel decrease gradually from 53m in the entrance to 12.8m near the junction with Chaatl Narrows. The narrows begin to dry about 1 mile within the entrance.

Anchorage can be taken by small vessels in the middle of the fairway in a depth of 45m, about 0.3 mile S of the entrance or in a depth of 27m farther S.

West Narrows—Southwest Approaches

16.20 Downie Island (53°09'N., 132°21'W.), 61m high and connected by a drying bank to the shore E, lies on the E side of the approach to West Narrows.

West Narrows, entered between Downie Island and the shore to the W, extends N and then E into the deep area lying S of Trounce Inlet. The channel is encumbered by numerous shoals, rocks, and other dangers. It is constricted to a navigable width of less than 0.2 mile by Downie Island. It is further reduced to a width of only 90m by the above and below-water dangers lying W of this island. A beacon stands on the W shore of the narrows, W of the N end of Downie Island. The channel turns abruptly E abeam of this beacon and continues for 1 mile to deep water. Care should be taken to avoid the foul ground which extends N into the channel from the NE end of Downie Island. A rock, 2m high, lies in mid-channel off the SW side of Downie Island and another rock, 1m high, lies close NE of it.

Caution.—Due to the narrow and tortuous nature of the fairway leading through West and East Narrows and the dangers lying within them, navigation of these waters is confined to small vessels with local knowledge. Transit should be made only at or near HW.

16.21 Trounce Inlet (53°10'N., 132°19'W.), entered to the E of West Narrows, indents Graham Island for 2.3 miles. The inlet has considerable depths and is free of dangers.

Anchorage can be taken by small vessels at the head of the inlet, in depths of 14 to 18m, about 0.1 mile off a steep-to drying flat

East Narrows, the narrowest part of Skidegate Channel, is 3 miles long. The channel narrows to a least width of only about 60m in the vicinity of McLellan Point (53°09'N., 132°17'W.).

The channel widens to the E of this point, but drying banks extend a considerable distance from both shores, leaving only a narrow, tortuous fairway.

Several beacons have been established to assist in the transit of East Narrows. West Beacon stands on the S shore, close W of McLellan Point. A pair of beacons, in line bearing 113.5°, stands on a conspicuous point located about 0.7 mile ESE of McLellan Point. A beacon stands on the N shore, about 0.3 mile ENE of the conspicuous point mentioned above.

A dolphin, equipped with white reflectors, stands about 0.3 mile E of the same conspicuous point and marks the N side of the fairway. A pair of beacons, in line bearing 118.5°, stands on the S shore, about 0.3 mile W of Mid Beacon. Mid Beacon, which marks the S side of the fairway, stands on a mid-channel rock, about 0.8 mile E of the same conspicuous point. Another beacon, which marks the N side of the fairway, stands close off the N shore on a rock, 3m high, about 0.2 mile ENE of the mid-channel rock mentioned above.

East Beacon, 4m high, stands on the N side of a rock, which dries 3m, lying near the N shore at the E end of East Narrows. The fairway passes on the N side of this beacon.

A beacon, nearly in mid-channel, stands on a rock, which dries 6.4m, lying about 1 mile ENE of East Beacon.

Tides—Currents.—There is a great difference in the tidal range between the E and W sections of Skidegate Channel. To the E of East Narrows, on a large tide, the range is 7.9m, and to the W of West Narrows, the range is only 4.3m. As a result, at HW and LW there are differences of several meters creating a strong W current in conjunction with HW, and an E current near LW. The currents attain a velocity of 7 knots in the vicinity of McLellan Point.

Slack water occurs at West Beacon at 3 hours to 3 hours 30 minutes after HW and LW at Queen Charlotte. At East Beacon, slack water occurs at 1 hour 30 minutes to 2 hours 30 minutes after HW and LW at Queen Charlotte.

Caution.—Caution is necessary in East Narrows because the levels to which the tides rise above datum are much less than those shown for Oueen Charlotte.

Vessels intending to pass through Skidegate Channel should remember that, as slack water occurs about 2 hours after HW in East Narrows, the tide will have fallen considerably by that time, thus placing a limitation on the draft at which a vessel may pass through safely.

The pairs of beacons marking the fairway have been erected close together; hence, causing the range lines to be very sensitive. Care is necessary to keep the ranges properly aligned.

Cartwright Sound

16.22 Cartwright Sound (53°12'N., 132°40'W.) is entered between Tcenakun Point and Hunter Point, on Graham Island, about 7.8 miles NW. The W entrance of Skidegate Channel, on the SE side of the sound, has been previously described in paragraph 16.19. Tana Bay and Gudal Bay lie in the E part; Van Inlet lies in its NE part.

Mount La Perouse, the tallest peak on the W side of Graham Island, rises to a conspicuous, bare summit, 1,120m high, about 2 miles E of Gudal Bay.

Marble Island (52°12'N., 132°39'W.), 144m high and wooded, lies almost midway between the entrance points of Cartwright Sound. A light is shown from the W side of the island. Marble Rock is low, bare, and white. It lies about 0.3 mile SW of the island. Gagi Rock, bare and 12m high, lies about 0.3 mile NE of the island. A reef extends up to about 0.4 mile NW from the island and a detached shoal, with a depth of 11.9m, lies about 0.8 mile farther N. This latter shoal patch is marked by kelp during the summer.

Tana Bay and Gudal Bay are exposed and do not afford anchorage. A shoal, with a depth of 7.3m, lies in the entrance of Tana Bay, about 0.5 mile SE of Tana Point, the N entrance point. The shoal, with a depth of 3.7m, lying WSW of Ells Point has been previously described in paragraph 16.19.

Stiu Rock, 20m high, lies in the middle of the entrance of Gudal Bay and a below-water rock is located close S of it.

Van Inlet (53°15'N., 132°37'W.), a narrow passage, is about 5 miles long. It has high land on both sides and is entered about 2 miles N of Stiu Rock. The entrance channel is 0.2 mile wide between the fringing dangers which lie off the entrance points. A group of rocks lie about 0.5 mile within the entrance. No known dangers lie NE of this group, but care should be taken because the inlet has not been fully examined.

Small vessels with local knowledge can anchor in a depth of 18m off a flat at the head of the inlet.

16.23 Hunter Point (53°15′N., 132°43′W.), low and wooded, is fringed by foul ground and beds of kelp extending up to 0.5 mile offshore. A drying rock lies about 0.5 mile W of the point. Vessels rounding Hunter Point should give it a berth of at least 1 mile.

Kano Inlet (53°17'N., 132°45'W.) is entered between Hunter Point and Kindakun Point, 4.5 miles NNW. It extends about 7 miles E and then S to the anchorage at the head.

Kindakun Point (53°19'N., 132°46'W.), marked by a light, is low but can be identified by several bare islets which lie on the foul ground extending about 0.5 mile SW from it. Kindakun Rock, 0.6m high, lies about 1 mile W of the point and a dangerous rock is located about 0.3 mile N of it. The sea breaks continuously over these dangers.

Kano Inlet, seaward of the fringing dangers which lie close off both shores, is deep and clear.

Cadman Island (53°18'N., 132°39'W.), which lies in the entrance of Carew Bay on the S side of the inlet, is fringed by several islets and dangers on all except its E side.

Anchorage can be taken in Carew Bay in depths of 36 to 51m within the inlet lying on the E side of Cadman Island.

Kano Inlet, lying N of Carew Bay, contracts to a width of 0.8 mile and then gradually narrows towards the anchorage at its head.

Givenchy Anchorage, which lies at the head of Kano Inlet, is obstructed in the approach by a fairly high, wooded islet. The passages lying on either side of the islet are obstructed by rocks on the W side and a projecting drying reef on the E side. Anchorage can be taken in a depth of 38m about 0.3 mile N of the islet. Small vessels can anchor in a depth of 21m about 0.3 mile from the head of the inlet.

Rennell Sound

16.24 Rennell Sound (53°25'N., 132°49'W.) is entered between Kindakun Point and Kunakun Point, 10.3 miles NW. It recedes about 10 miles E and then 7 miles SE to Shields Bay and Clapp Basin. A light is shown from Kunakum Point. The N shore of the sound is indented by Seal and Tartu Inlets.

Rennell Sound and Shields Bay provide the most accessible shelter for large vessels on the W coast of the Queen Charlotte Islands. The physical features of its approach render it more easily identified than most of the other sounds and inlets, which for the most part are narrow and difficult to distinguish.

Hippa Island, lying 4.5 miles NW of Kunakun Point, and Mount Emmons, rising on the S side of the sound, are very conspicuous in clear weather. Mount Emmons, 535m high, has a pyramidal peak which appears symmetrical from all directions except N. Kunakun Point has a prominent hump surmounting its extremity, which appears as a detached rock from seaward. Kindakun Point is marked by a light.

Depths within Rennel Sound are deep and, with few exceptions, it is clear to within about 0.5 mile of the shores.

Freeman Rock (53°26'N., 132°56'W.), which occasionally breaks, lies about 2.3 miles SW of Kunarkun Point.

Rennell Reef (53°23'N., 132°45'W.) consists of a rock, which dries 1.5m, and three rocks, with depths of 4.2 to 8.7m. It lies about 1.3 miles NW of Cone Head. The passage leading between the reef and the shore is deep and clear.

Gospel Island (53°23'N., 132°35'W.), fairly high and wooded, lies on the S side of an area of foul ground. Two detached shoals, with depths of 11m and 8.2m, lie within 1.5 miles W of the island. A rock, which dries 4.3m, lies about 1 mile NW of Gospel Point. Rocks, with depths of 2.1m and 5.5m, lie 0.3 mile SW of the above drying rock. On the S side of Gospel Point there is a pier and a logging boom.

Seal Inlet (53°28'N., 132°48'W.) is entered about 3.5 miles E of Kunakun Point, on the N side of the sound. It extends about 5 miles N to the head. The entrance is fouled by numerous rocks and reefs. A channel, about 0.3 mile wide, leads through these dangers and into the inlet, but local knowledge is essential for entering. The fairway, to the N of these dangers, is clear. The depths are too great for anchoring, except for small craft at the head of the inlet.

16.25 Tartu Inlet (53°26'N., 132°41'W.), entered about 4 miles E of Seal Inlet, extends about 3.5 miles N to its head. A shoal, with a depth of 8.2m, lies about midway between the entrance points. Clonard Point, the E entrance point of the inlet, is fringed by foul ground extending up to 0.3 mile offshore.

Anchorage can be taken by small vessels with local knowledge in a depth of 23m about 1.3 miles from the head of the inlet. Anchorage can also be taken in lesser depths near the head.

The small bay lying about 2 miles NE of Gospel Island is obstructed by some detached shoal patches and a rock which dries 4.3m. During strong W winds, a heavy sea breaks over these dangers and the shores of the bay.

Shields Bay (53°22'N., 132°32'W.), entered about 2.3 miles SE of Gospel Island, extends about 5 miles SE. It then turns S and leads into Clapp Basin. Richardson Head, located 1 mile

within the bay along the S shore, is bold and steep-to. Clonard Bay, a small indentation, lies close S of Richardson Head and is fronted by foul ground.

Anchorage can be taken in this bay in a depth of 27m about 0.5 mile offshore.

Shields Island (53°20'N., 132°27'W.), high and wooded, is joined to the shore to the S by a drying reef. Shields Rock, which dries 4.3m, lies about 0.8 mile W of Dawson Head, the NE extremity of the island. Two rocky shoal patches lie between Shields Rock and the island to the S. A detached rocky shoal patch, with a depth of 11.9m, lies about 0.3 mile NNW of Dawson Head.

Ells Bay (53°19'N., 132°28'W.), which has considerable depths, lies close S of the W end of Shields Island. Ells Rocks, above-water, lie near the middle of the entrance. The passages leading on both sides have considerable depths. The easternmost passage is preferred.

Anchorage can be taken in this bay to the S of the W extremity of Shield Islands, but the depths are great.

Clapp Islands (53°19'N., 132°26'W.), several in number, extend SE from the SE side of Shields Island across the entrance of Clapp Basin. Mackenzie Passage, lying on the E and S sides of these islands, leads into the basin. This passage, which has a least depth of 18m, is constricted to a width of 135m by a drying bank extending N from the S side of the channel. Local knowledge is required.

Anchorage can be taken by small vessels, in a depth of 16.5m, in the middle of Clapp Basin.

Rennell Sound to Athlow Bay

16.26 Skelu Bay (53°30'N., 132°55'W.) and its approaches, which lie between Kunakun Point and Skelu Point to the NW, have not been examined and should be approached with caution. The bay lies N and E of Sadler Island, about 2 miles N of Kunakun Point, but is unsuitable as an anchorage, being fully exposed to the W and SW.

Hippa Island (53°32'N., 132°58'W.), 486m high near its SE end, is separated from Skelu Point by Hippa Passage. The island is conspicuous and readily distinguished from a considerable distance in clear weather. A light is shown from the W side of the island. Foul ground extends up to 0.3 mile from the S and SW sides of the island.

Quequitz Reefs, a large area of foul ground, is about 0.8 mile wide and lies off the NW extremity of Hippa Island. Numerous above and below-water rocks, and several islets lie within the limits of these reefs. Some of the rocks and shoal patches are marked by kelp.

Hippa Passage (53°31'N., 132°57'W.), entered between Hippa Island and Skelu Point to the SE, extends N and then NW along the N coast of the island. A conspicuous pinnacle rock, 35m high, stands on the E side of the passage, about 0.5 mile N of Skelu Point. A rock, 7m high, lies in the middle of the fairway, about 0.3 mile offshore. Another rock, with a depth of 7m, lies about 0.5 mile farther W. Several drying and below-water rocks lie between the two.

Hippa Rocks, two in number, lie close together on an area of foul ground, about 0.8 mile N of the NW extremity of Hippa Island. The tallest rock is 4m high. The passage leading S of these dangers is narrow but deep.

Marchand Point (53°34'N., 132°59'W.), low and fringed by foul ground, is located 0.5 mile E of Hippa Rocks. The passage leading between the foul ground fringing the point and Hippa Rocks is about 0.4 mile wide and deep.

16.27 Nesto Inlet (53°33'N., 132°56'W.), entered about 1 mile NE of Hippa Island, is deep and clear in its central part, but foul at its head. A narrow ridge of foul ground extends about 0.5 mile SW from the W entrance point of the inlet.

A rock, with a depth of 6.4m, lies at the outer end of this ridge. The depths within Nesto Inlet are too great for anchoring, but small craft with local knowledge can shelter off the beach at its head.

Selvesen Point (53°35'N., 133°00'W.), fronted by a reef which has not been examined, lies about 1.8 miles N of Marchand Point. The bay lying between the two points is exposed and of no importance. A detached shoal, with a depth of 8.5m and marked by kelp, lies in the middle of the entrance of this bay, about 0.5 mile NNW of Marchand Point.

The detached reef lying W of Selvesen Point has by a rock, 3m high, located at its S end. Kelp beds lie at the opposite end of the reef, about 13 miles N.

Athlow Bay

16.28 Athlow Bay (53°38'N., 133°00'W.) is entered between Selvesen Point and an unnamed point, 4.5 miles N. It has not been completely surveyed. Port Chanal lies in its SE part.

Selvesen Island (53°36'N., 133°00'W.), small and wooded, lies close N of Selvesen Point and a rock, which dries 4m, is located about 0.5 mile N of it.

Hughes Point, high and cliffy, is located 1 mile ENE of Selvesen Point and a rock, which dries 0.9m, lies about 0.3 mile NE of it.

Flamingo Rock (53°38'N., 133°00'W.), which breaks in heavy weather, lies about 2.3 miles NW of Hughes Point.

Gillan Point (53°38'N., 132°58'W.), the SW extremity of an irregular shaped peninsula which extends about 1 mile W from the general line of the coast, lies in the middle of Athlow Bay. Hosu Cove, encumbered by numerous islets and rocks, lies N of this peninsula.

Barry Island (53°37'N., 132°56'W.), 77m high and wooded, lies about 1.5 miles SE of Gillan Point. Some islets lie close off the N and S extremities of this island.

Freeman Island (53°36'N., 132°56'W.), located 0.5 mile S of Barry Island, is irregular in shape and moderately high. A drying rock and some shoals lie within 0.2 mile of the NW part of the island.

16.29 Port Chanal (53°36'N., 132°53'W.), located in the SE part of Athlow Bay, is entered through the channel which lies between Barry and Freeman Islands. The channel, to the E of the entrance, is deep, but anchorage can be taken about 1 mile from the head.

The Cameron Range, a conspicuous group of bare peaks, rises about 1 mile N of Port Chanal. The tallest peak is 791m high. Mount Hobbs, with a bare summit 716m high, stands 1 mile SE of the port.

Mallard Rock, 1.8m high and with two shoal patches located close N of it, lies on the S side of the channel, about 1.3 miles from the head of Port Chanal. Chanal Rock, 1.2m high, lies on the same side of the channel, about 0.8 mile ENE.

Anchorage can be taken, in a depth of 42m, close N of Mallard Rock. Small vessels with local knowledge can anchor, in a depth of 9m ,near the head of the port.

No attempt should be made by vessels to enter Port Chanal except in clear weather.

Empire Anchorage (53°35'N., 132°54'W.) lies in a small bay about 0.5 mile SE of Freeman Island. Both shores and the head of the bay are foul, providing only restricted, temporary anchorage space for small vessels with local knowledge.

Athlow Bay to Cape Knox

16.30 Louis Point (53°42'N., 133°02'W.) is the N extremity of an islet which lies close off the outer end of the peninsula forming the N side of Athlow Bay. This point is fronted by several detached, rocky shoal patches which lie up to 1.5 miles SW, 0.5 mile N, and 0.8 mile NW of it.

Heavy breakers are reported to mark the southwesternmost of these dangers. This area should be given a wide berth when passing, because of the approximate positions of some of these dangers.

Louis Rocks (53°42'N., 133°03'W.), consisting of two very low above-water rocks, lie about 0.8 mile NW of Louis Point with several drying heads in between. A rock, which dries 3.4m, lies at the outer edge of the foul ground extending N from Louis Point.

Several islets lie within 0.5 mile of the shore between Louis Point and Kiokathli Inlet, about 1 mile ESE.

Taylor Shoal (53°42'N., 133°01'W.), a bank about 0.8 mile long and 0.3 mile wide, lies about 0.8 mile NE of Louis Point. Two separate shoal areas, with depths of 3.3 to 6.4m, lie within the limits of this bank and break with a W swell. A similar breaking shoal, with a depth of 5.5m, lies about midway between the S end of Taylor Shoal and an islet located to the S. The channel leading to Kiokathli Inlet passes E of these shoals.

Kiokathli Inlet (53°41'N., 133°00'W.) is entered through a narrow channel, with a depth of 12.8m, which passes W of the Brock Islands and Mackenzie Island. A shoal patch, with a depth of 6.4m, lies in the middle of this channel, close SW of the northwesternmost of the Brock Islands. The basin within the inlet is about 0.3 mile wide, but is encumbered by shoals.

Solide Islands (53°42'N., 132°59'W.), four in number, lie across the approach to Port Louis to the E. Numerous shoals lie in the vicinity of these islands.

16.31 Port Louis (53°42'N., 132°57'W.), entered between the Solide Islands and Chanal Point, provides sheltered anchorage for vessels in its central part. Ironside Mountain, 796m high, stands about 1.5 miles NE of the head of the port.

The S side of the channel between the Solide Islands and Queen Island, about 1 mile E, is bordered by irregular depths and some shoal rocky patches. A detached shoal patch, with a depth of 6m, lies about 0.3 mile N of Queen Island.

The N side of the channel between Chanal and Turner Points is bordered by foul ground, which extends up to 0.5 mile offshore in places. Several islets and drying rocks lie within the

limits of this foul ground. Tingley Cove, a small foul bay, lies S of Port Louis.

Anchorage can be taken in the central part of Port Louis in a depth of 25m, mud, about 0.5 mile E of Queen Island.

Otard Bay (53°45'N., 133°01'W.), entered between McIntosh Point and Beavis Point to the W, extends about 1.8 miles N.

Benson Rock, with a depth of less than 1.8m, lies 1 mile SSW of Beavis Point. Shoals, with depths of 4.2m and 8.2m, lie close WNW and 0.3 mile SSW, respectively, of this rock.

Beavis Islets, surrounded by shoals, lie close S of Beavis Point. Thomas Rock, which dries 3m, lies in the middle of the entrance of the inlet. Several detached shoal patches front all except the N side of this rock.

Anchorage can be taken in a depth of 10m, sand, near the head of the bay, but a heavy swell sets in with SE or SW gales.

Tian Bay (53°45'N., 133°04'W.), entered between Beavis Point and the Tian Islets to the W, is deep and clear in its central part. The Tian Islets, bare and conspicuous, serve to identify the entrance. They lie on a narrow area of foul ground which extends up to about 1.3 miles S from the coast. A rock, 1.2m high, lies near the S edge of this foul ground.

16.32 Tian Head (53°47'N., 133°07'W.), a prominent point with a conspicuous wooded summit rising 0.8 mile NE of it, is located 2 miles NW of Tian Bay. Tian Rock, 7m high and surrounded by foul ground, lies about 0.3 mile SW of Tian Head. A detached shoal, with a depth of 11m, lies about 1 mile W of the head. A detached rock, which dries 0.3m, lies about 1.3 miles NW of the head.

Joseph Rocks (53°49'N., 133°08'W.), up to 9m high, lie about 2.5 miles NNW of Tian Head. The foul ground which surrounds these rocks extends up to 0.4 mile from their N and S sides.

A rock, with a depth of less than 1.8m, lies about 1 mile W of Joseph Rocks. Several detached shoal patches, some marked by kelp, lie within 1 mile W and 0.8 mile N of the rock. Another rock, with a depth of 4.6m, lies about 1 mile N of Joseph Rocks.

Ingraham Bay (53°49'N., 133°06'W.) lies NE of Joseph Rocks. The central part of the bay is fouled by several detached shoal patches and a drying rock, and is of little use as an anchorage.

Kennecott Point (53°55'N., 133°09'W.), which is located 5.3 miles N of Ingraham Bay, rises about 1 mile inland to Omega Mountain. This conspicuous mountain has a summit, 372m high.

Frederick Island (53°56'N., 133°11'W.), high and densely wooded, is separated from Kennecott Point by a shallow, foul passage. In clear weather, the island is conspicuous from the

W. The N and S extremities of the island are fringed by foul ground. A detached shoal patch, with a depth of 5.5m and marked by kelp, lies about 1.5 miles SW of the S extremity of the island. A light is shown from Hope Point, the NW extremity of the island.

16.33 Peril Bay (53°56'N., 133°08'W.), entered between Frederick Island and Morgan Point to the E, shoals gradually to its head. Beehive Hill, conspicuous and 130m high, stands close S of Morgan Point.

Temporary anchorage can be taken in the central part of the bay in a depth of 11m. Vessels should be prepared to leave if a heavy swell sets in during N winds.

Boussole Rock (53°58'N., 133°09'W.) lies in the approach to Peril Bay, about 1.5 miles N of the entrance. This rock, which breaks heavily with a moderate sea, has a depth of 5.5m. A detached shoal patch, with a depth of 8.2m, lies about 0.3 mile farther N.

White Point (54°00'N., 133°07'W.) rises about 1.8 miles SE to a conspicuous cone, 345m high. Pivot Mountain, also conspicuous, is 585m high and stands 4.3 miles ENE of the point. Some conspicuous white cliffs line the shore, about 0.3 mile NE of White Point.

La Perouse Reef (54°01'N., 133°11'W.), which dries 2.4 to 2.7m, lies between 2 miles and 2.3 miles W of White Point. A detached shoal, with a least depth of 7.3m, lies about midway between the point and the reef. Kelp marks this latter danger.

Beresford Bay (54°03'N., 133°06'W.), entered between White Point and Sadler Point to the N, is exposed and of no use as an anchorage. Its shores are fronted by foul ground marked by kelp.

Lauder Point (54°07'N., 133°06'W.) lies 1.3 miles N of Sadler Point. Newcombe Point, 165m high and conspicuous, is located close to the shore, 1.3 miles NE of this point.

Gatenby Rock (54°07'N., 133°09'W.) lies about 1.5 miles W of Lauder Point. It is awash and usually breaks. The area bounded by Sadler Point, Gatenby Rock, and Lauder Point is fouled by several detached rocky patches and some abovewater rocks, and should be avoided.

Lepas Bay (54°10'N., 133°03'W.) shoals gradually to its head and is free of dangers. Because of the prevailing heavy swell, the bay is unsuitable as an anchorage even in good weather.

Carew Rock (54°10′N., 133°08′W.), 4m high, lies about 2 miles W of the entrance of Lepas Bay. Turner Reef, 1.5m high, lies close E of Carew Rock. The passage leading between this reef and Cape Knox, to the NE, is not recommended although it is deep and clear.

Cape Knox (54°11'N., 133°05'W.) is fully described in paragraph 17.3.